



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2014-0231; Directorate Identifier 2013-NM-163-AD; Amendment 39-18073; AD 2015-02-06]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier, Inc. Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain Bombardier, Inc. Model CL-600-2B16 (CL-604 Variant) airplanes. This AD was prompted by reports of loose, broken, or backed-out spur gear bolts on the horizontal stabilizer trim actuator (HSTA). This AD requires a revision to the airplane flight manual, a revision to the maintenance or inspection program, as applicable, and replacement of HSTAs having certain part numbers. We are issuing this AD to detect and correct loose spur gear bolts on the HSTA, which, if combined with the failure of the primary load path, could lead to failure of the HSTA and subsequent loss of the airplane.

**DATES:** This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may examine the AD docket on the Internet at

<http://www.regulations.gov/#!docketDetail;D=FAA-2014-0231>; or in person at the Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC.

For service information identified in this AD, contact Bombardier, Inc., 400 Côte Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514-855-7401; email [thd.crj@aero.bombardier.com](mailto:thd.crj@aero.bombardier.com); Internet <http://www.bombardier.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

**FOR FURTHER INFORMATION CONTACT:** Ricardo Garcia, Aerospace Engineer, Airframe and Propulsion Branch, ANE-171, FAA, New York Aircraft Certification Office, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-28-7331; fax 516-794-5531.

#### **SUPPLEMENTARY INFORMATION:**

##### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Bombardier, Inc. Model CL-600-2B16

(CL-604 Variant) airplanes. The NPRM published in the Federal Register on April 15, 2014 (79 FR 21158). Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2013-18, dated July 16, 2013 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for certain Bombardier, Inc. Model CL-600-2B16 (CL-604 Variant) airplanes. The MCAI states:

There have been a number of reports where the HSTA spur gear bolts were found loose, broken or backed out. Investigation revealed that the root cause of the bolt loosening is due to incorrect bending of the anti-rotation tab washer and the improper application of Loctite glue during installation. Loose bolt(s) on the HSTA spur gear combined with the failure of the primary load path, could lead to failure of the HSTA and subsequent loss of the aeroplane.

Bombardier Aerospace has introduced a modified HSTA [part number] P/N 604-92305-5 (vendor P/N 8454-2) to rectify the loose bolt problem. However, this modified HSTA has several quality control problems which could affect safety.

This AD is issued to mandate the replacement of the affected HSTA with the new HSTA P/N 604-92305-7 (vendor P/N 8454-3).

In addition to requiring the replacement of any HSTA having the affected part number, this AD requires revising both the airplane flight manual and airplane maintenance or inspection program.

You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2014-0231-0002>.

### **Comments**

We gave the public the opportunity to participate in developing this AD. The following presents the comment received on the NPRM (79 FR 21158, April 15, 2014) and the FAA’s response to the comment.

### **Request to Refer to Revised Service Information**

Mher Krikorian stated that the current revision of the service information is not referenced in the NPRM (79 FR 21158, April 15, 2014) and requested that the NPRM be revised to refer to Bombardier Service Bulletin 604-27-032, Revision 02, dated April 22, 2014; and Bombardier Service Bulletin 605-27-002, Revision 02, dated April 22, 2014. Mr. Krikorian suggested that referring to the current revision of the service information would help to avoid requests for approval of alternative methods of compliance.

We agree with the commenter's request and have revised paragraph (j) of this AD to refer to Bombardier Service Bulletin 604-27-032, Revision 02, dated April 22, 2014; and Bombardier Service Bulletin 605-27-002, Revision 02, dated April 22, 2014. The revised service information includes only minor changes and does not include any substantive changes or new actions. We also added a new paragraph (k) to this AD to provide credit for actions accomplished prior to the effective date of this AD using Bombardier Service Bulletin 604-27-032, dated September 10, 2012; 604-27-032, Revision 01, dated April 29, 2013; 605-27-002, dated September 10, 2012; or Bombardier Service Bulletin 605-27-002, Revision 01, April 29, 2013; as applicable. We redesignated the subsequent paragraphs accordingly.

### **“Contacting the Manufacturer” Paragraph in this AD**

Since late 2006, we have included a standard paragraph titled “Airworthy Product” in all MCAI ADs in which the FAA develops an AD based on a foreign authority's AD.

We have become aware that some operators have misunderstood or misinterpreted the Airworthy Product paragraph to allow the owner/operator to use messages provided by the manufacturer as approval of deviations during the accomplishment of an

AD-mandated action. The Airworthy Product paragraph does not approve messages or other information provided by the manufacturer for deviations to the requirements of the AD-mandated actions. The Airworthy Product paragraph only addresses the requirement to contact the manufacturer for corrective actions for the identified unsafe condition and does not cover deviations from other AD requirements. However, deviations to AD-required actions are addressed in 14 CFR 39.17, and anyone may request the approval for an alternative method of compliance to the AD-required actions using the procedures found in 14 CFR 39.19.

To address this misunderstanding and misinterpretation of the Airworthy Product paragraph, we have changed the paragraph and retitled it “Contacting the Manufacturer.” This paragraph now clarifies that for any requirement in this AD to obtain corrective actions from a manufacturer, the actions must be accomplished using a method approved by the FAA, TCCA, or Bombardier, Inc.’s TCCA Design Approval Organization (DAO).

The Contacting the Manufacturer paragraph also clarifies that, if approved by the DAO, the approval must include the DAO-authorized signature. The DAO signature indicates that the data and information contained in the document are TCCA-approved, which is also FAA-approved. Messages and other information provided by the manufacturer that do not contain the DAO-authorized are not TCCA-approved, unless TCCA directly approves the manufacturer’s message or other information.

This clarification does not remove flexibility previously afforded by the Airworthy Product paragraph. Consistent with long-standing FAA policy, such flexibility was never intended for required actions. This is also consistent with the recommendation of the Airworthiness Directive Implementation Aviation Rulemaking Committee to increase flexibility in complying with ADs by identifying those actions in manufacturers’ service instructions that are “Required for Compliance” with ADs. We

continue to work with manufacturers to implement this recommendation. But once we determine that an action is required, any deviation from the requirement must be approved as an alternative method of compliance.

We also have decided not to include a generic reference to either the “delegated agent” or “design approval holder (DAH) with State of Design Authority design organization approval,” but instead we have provided the specific delegation approval granted by the State of Design Authority for the DAH throughout this AD.

#### **Additional Changes to this AD**

We revised paragraph (h) of this AD to require operators to revise the maintenance or inspection program, as applicable, by incorporating procedures for an Operational Test (BITE) of the Horizontal Stabilizer Trim Controls System (HSTCS), in accordance with a method approved by the Manager, New York ACO, ANE-170, FAA; or TCCA; or Bombardier, Inc.’s TCCA DAO. Bombardier Task 27-41-00-101, Operational Test (BITE) of the Horizontal Stabilizer Trim Controls System (HSTCS), is referenced as guidance material in new Note 1 to paragraph (h) of this AD.

#### **Conclusion**

We reviewed the relevant data, considered the comment received, and determined that air safety and the public interest require adopting this AD with the changes described previously, and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (79 FR 21158, April 15, 2014) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (79 FR 21158, April 15, 2014).

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

#### **Related Service Information**

We reviewed Bombardier Temporary Revision (TR) 604/37, dated May 21, 2013, to the Bombardier Challenger CL-604 Airplane Flight Manual, PSP 604-1; and Bombardier TR 605/18, dated May 21, 2013, to the Bombardier Challenger CL-605 Airplane Flight Manual, PSP 605-1. This service information describes procedures for the stabilizer trim system check. We also reviewed Bombardier Service Bulletin 604-27-032, Revision 02, dated April 22, 2014; and Bombardier Service Bulletin 605-27-002, Revision 02, dated April 22, 2014. This service information describes procedures for replacing HSTAs. You can find this information at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0231.

#### **Costs of Compliance**

We estimate that this AD affects 125 airplanes of U.S. registry.

We also estimate that it will take about 21 work-hours per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour. Required parts will cost about \$0 per product. Based on these figures, we estimate the cost of this AD on U.S. operators to be \$223,125, or \$1,785 per product.

According to the manufacturer, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

#### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator.

“Subtitle VII: Aviation Programs,” describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in “Subtitle VII, Part A, Subpart III, Section 44701: General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov/#!docketDetail;D=FAA-2014-0231>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except



Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone 800-647-5527) is in the ADDRESSES section.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**2014-02-06 Bombardier, Inc.:** Amendment 39-18073. Docket No. FAA-2014-0231; Directorate Identifier 2013-NM-163-AD.

#### **(a) Effective Date**

This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to Bombardier, Inc. Model CL-600-2B16 (CL-604 Variant) airplanes, certificated in any category, serial numbers 5301 and subsequent, equipped

with horizontal stabilizer trim actuator (HSTA) part number (P/N) 604-92305-3 (vendor P/N 8454-1) or P/N 604-92305-5 (vendor P/N 8454-2).

**(d) Subject**

Air Transport Association (ATA) of America Code 27, Flight Controls.

**(e) Reason**

This AD was prompted by reports of loose, broken, or backed out spur gear bolts on the horizontal stabilizer trim actuator (HSTA). We are issuing this AD to detect and correct loose spur gear bolts on the HSTA, which, if combined with the failure of the primary load path, could lead to failure of the HSTA and subsequent loss of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Airplane Flight Manual (AFM) Revision**

Within 30 days after the effective date of this AD, revise the Normal Procedures section of the applicable Bombardier AFM to include the information in the applicable temporary revision (TR) specified in paragraph (g)(1) or (g)(2) of this AD. The TRs introduce revised procedures for the stabilizer trim system check. Operate the airplane according to the limitations and procedures in the applicable TR. The revision may be done by inserting a copy of the applicable TR specified in paragraph (g)(1) or (g)(2) of this AD into the AFM. When the TR has been included in the general revisions of the AFM, the general revisions may be inserted into the AFM, provided the relevant information in the general revision is identical to that in the applicable TR, and the TR may be removed.

(1) Bombardier Temporary Revision (TR) 604/37, dated May 21, 2013, to the Bombardier Challenger CL-604 Airplane Flight Manual, PSP 604-1.

(2) Bombardier TR 605/18, dated May 21, 2013, to the Bombardier Challenger CL-605 Airplane Flight Manual, PSP 605-1.

**(h) Maintenance or Inspection Program Revision**

Within 30 days after the effective date of this AD: Revise the maintenance or inspection program, as applicable, by incorporating procedures for an Operational Test (BITE) of the Horizontal Stabilizer Trim Controls System (HSTCS), in accordance with a method approved by the Manager, New York Aircraft Certification Office (ACO), ANE-170, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). The initial compliance time for the operational test is within 100 flight hours after the effective date of this AD.

Note 1 to paragraph (h) of this AD: Bombardier Task 27-41-00-101, Operational Test (BITE) of the Horizontal Stabilizer Trim Controls System (HSTCS), provides guidance for the operational test specified in paragraph (h) of this AD. Bombardier Task 27-41-00-101 is included in the Bombardier Challenger 604 Time Limits/Maintenance Checks (TLMC) Manual; and in the Bombardier Challenger 605 TLMC Manual.

**(i) No Alternative Actions or Intervals**

After the maintenance or inspection program has been revised, as required by paragraph (h) of this AD, no alternative actions (e.g., inspections) or intervals may be used unless the actions or intervals are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (m)(1) of this AD.

**(j) HSTA Replacement**

For airplanes equipped with a HSTA having P/N 604-92305-3 (vendor P/N 845401) or P/N 604-92305-5 (vendor P/N 8454-2): Within 3,000 flight hours or

26 months after the effective date of this AD, whichever occurs first, replace any HSTA having P/N 604-92305-3 (vendor P/N 845401) or P/N 604-92305-5 (vendor P/N 8454-2) with a HSTA having P/N 604-92305-7 (vendor P/N 8454-3), in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 604-27-032, Revision 02, dated April 22, 2014; or Bombardier Service Bulletin 605-27-002, Revision 02, dated April 22, 2014; as applicable.

**(k) Credit for Previous Actions**

This paragraph provides credit for the actions required by paragraph (j) of this AD if those actions were performed before the effective date of this AD using the service information identified in paragraphs (k)(1) through (k)(4) of this AD, as applicable. This service information is not incorporated by reference in this AD.

(1) Bombardier Service Bulletin 604-27-032, dated September 10, 2012.

(2) Bombardier Service Bulletin 604-27-032, Revision 01, dated April 29, 2013.

(3) Bombardier Service Bulletin 605-27-002, dated September 10, 2012.

(4) Bombardier Service Bulletin 605-27-002, Revision 01, April 29, 2013.

**(l) Parts Installation Prohibition**

As of the effective date of this AD, no person may install any HSTA having P/N 604-92305-3 (vendor P/N 8454-1) or 604-92305-5 (vendor P/N 8454-2) on any airplane.

**(m) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, New York ACO, ANE-170, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as

appropriate. If sending information directly to the ACO, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

**(2) Contacting the Manufacturer:** For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO, ANE-170; or TCCA; or Bombardier, Inc.'s TCCA Design DAO. If approved by the DAO, the approval must include the DAO-authorized signature.

**(n) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2013-18 dated July 16, 2013, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2014-0231-0002>.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (o)(3) and (o)(4) of this AD.

**(o) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Bombardier Service Bulletin 604-27-032, Revision 02, dated April 22, 2014.

(ii) Bombardier Service Bulletin 605-27-002, Revision 02, dated April 22, 2014.

(iii) Bombardier Temporary Revision 604/37, dated May 21, 2013, to the Bombardier Challenger CL-604 Airplane Flight Manual, PSP 604-1.

(iv) Bombardier Temporary Revision 605/18, dated May 21, 2013, to the Bombardier Challenger CL-605 Airplane Flight Manual, PSP 605-1.

(3) For service information identified in this AD, contact Bombardier, Inc., 400 Côte Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514-855-7401; email [thd.crj@aero.bombardier.com](mailto:thd.crj@aero.bombardier.com); Internet <http://www.bombardier.com>.

(4) You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on January 11, 2015.

Jeffrey E. Duvén,  
Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.